

SCIENTIFIC NOTE

**FOUNDING QUEEN OF THE RED IMPORTED FIRE ANT
(*SOLENOPSIS INVICTA*) (HYMENOPTERA: FORMICIDAE)
OBSERVED IN CARNIVOROUS PLANT¹**James T. Vogt²

The white-topped pitcher plant, *Sarracenia leucophylla* Raf. (Sarraceniaceae), occurs from southeastern Georgia through the Florida panhandle and southern Alabama to southeastern Mississippi (Folkerts 1990). Several insect species are associated with this and other species of pitcher plants in the southeastern U.S., as prey, pollinators, pitcher inhabitants, herbivores and casual associates (Rymal and Folkerts 1982). Of particular interest are pitcher inhabitants, which have evolved means of avoiding capture by carnivorous pitcher plants and can utilize the tubular leaves for shelter and/or feed on the entrapped prey or leaf tissue. Among the more intriguing pitcher inhabitants are arthropods which use the pitcher as a nesting site. For example, the wasp *Isodontia mexicana* (Saussure) (Hymenoptera, Sphecidae) commonly nests in pitcher plants (Rymal and Folkerts 1982). The nests, containing paralyzed prey and wasp larvae, are heavily preyed upon by red imported fire ants (Rymal and Folkerts 1982) which are common in southeastern bogs. In one instance a small colony of acrobatic ants (*Crematogaster*, subgenus *Acrocoelia* Mayr) numbering ca. 80-100 workers was observed in a pitcher (*S. flava* L.) in a Florida bog (T. Paige Carithers, pers. comm.). *Solenopsis* spp. and other ant species can be important prey items for some species of pitcher plants (Folkerts 1992).

On October 20, 1995, while assisting T. Paige Carithers with arthropod sampling at a pitcher plant bog in Baldwin Co., Alabama, I observed a single red imported fire ant queen in the pitcher of a white-topped pitcher plant. The pitcher, approximately 30-40 cm in height, was filled to within ca. 10-15 cm of the top with caterpillar (Noctuidae: *Exyra* sp.) frass and the accumulated debris of several captured and partially digested or decomposed insects. The red imported fire ant queen was seen atop the debris when the hood of the pitcher was pulled back. Upon closer examination and dissection of the pitcher it was noted that the queen had a clutch of eggs (ca. 20-40) which appeared alive and healthy. The eggs were in the immediate vicinity of the queen.

To my knowledge, this is the first record of the red imported fire ant using a pitcher plant, or any carnivorous plant, as an ectopic nest. The occurrence of an apparently newly mated founding queen in a white-topped pitcher plant raises some interesting questions. It is not known how the queen got there. She may have landed in the pitcher by chance following a mating flight, or, finding that conditions in the bog were too wet following the rain that typically precedes mating flights (Rhoades and Davis 1967, Markin *et al.* 1971), she may have climbed the pitcher and been captured while searching for a suitable place to raise her first brood. However the queen entered the plant, it is evident that the tubular leaf of the carnivorous white-topped pitcher plant provides a habitat suitable for the initial stages of colony founding by red imported fire ant queens, at least when the pitcher contains enough debris to prevent the drowning of the queen and her eggs. Survival of the first brood (minims) and ultimately the colony are matters for speculation. Accumulated debris in the pitcher could possibly serve as food for a developing colony as long as the pitcher did not fill with water during rain. Further observations are planned to detect the frequency of this occurrence.

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² Department of Entomology, 301 Funchess Hall, Auburn University, AL 36849-5413.

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